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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,586	09/04/2003	Yu-Lien Huang	67,200-1133	7926

7590
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01/29/2007

EXAMINER

LUND, JEFFRIE ROBERT

ART UNIT	PAPER NUMBER
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1763

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/656,586

Applicant(s)

HUANG ET AL.

Examiner

Jeffrie R. Lund

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 9-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on August 4, 2006. These drawings are approved by the Examiner.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase "structurally isolated from said chamber" is not described in the specification.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "structurally isolated from said chamber" fails to particularly point out and distinctly claim the subject matter which applicant regards as the invention because it is not clear what the phrase means.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al, US Patent Application Publication 2002/0000197, in view of Ohta, US Patent 4,526,132.

Masuda et al teaches a processing apparatus 1 that includes a process chamber 16 having a vertical chamber wall defining a chamber interior 14, a showerhead 12 having a lateral surface engaging the chamber wall provided in the process chamber.
(Entire document)

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Masuda et al differs from the present invention in that Masuda et al does not teach the showerhead is held by a plurality of lateral fasteners with a fastener head and threaded shank, the fasteners structurally isolated from the chamber interior.

Ohta teaches supporting a gas source 37 with a plurality of lateral screws 52, structurally isolated from the chamber. (Figure 3)

The motivation for attaching the showerhead of Masuda et al with the lateral screws of Ohta, through the chamber wall into the showerhead, is to provide a means of mounting the showerhead of Masuda et al as required by Masuda et al but not described.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to attach the showerhead of Masuda et al using a plurality of lateral screws as taught by Ohta.

9. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al US Patent Application Publication 2002/0000197, and Ohta, US Patent 4,526,132, as applied to claims 1 and 2 above, and further in view of Lilleland et al, US Patent 6,073,577.

Masuda et al and Ohta differ from the present invention in that they do not teach a gas mixing plate and confinement ring.

Lilleland et al teaches an apparatus that includes: a showerhead 14 with a gas mix plate 22; and a confinement ring 17. (Figure 1, column 2 line 22 through column 3 line 14)

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The motivation for adding a mixing plate and confinement ring of Lilleland et al to the apparatus of Masuda et al and Ohta is to more uniformly distribute the processing gas.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the gas mixing plate and confinement ring of Lilleland et al to the apparatus of Masuda et al and Ohta.

Response to Arguments

10. Applicant's arguments, see page 9 paragraph starting "However, it is respectfully submitted....", filed November 20, 2006, with respect to the 103 rejection of claims 1-8 under Lilleland et al in view of Ohta, have been fully considered and are persuasive. The rejection has been withdrawn.

11. Applicant's arguments filed November 20, 2006 have been fully considered but they are not persuasive.

In regard to the argument that Masuda et al and Ohta do not describe any advantage or suggest any desirability of such a combination, the Examiner disagrees. Masuda et al is silent on how the showerhead is mounted, and therefore one of ordinary skill in the art using Masuda et al would be forced to select a way of mounting the showerhead. The showerhead must be mounted from above or the side. Therefore one of ordinary skill in the art seeking a means of mounting the showerhead of Masuda et al would be motivated by Ohta to use lateral screws to attach the showerhead of Masuda et al. The screws of Ohta are structurally isolated from the chamber. Furthermore, the MPEP section 4123 teaches, "there must be some suggestion or motivation, either in

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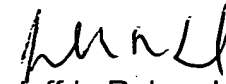
the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings". The use of screws to attach parts is well known in the art and thus provides the motivation and desirability of attaching the showerhead of Masuda et al with screws.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (571) 272-1437. The examiner can normally be reached on Monday-Thursday (6:30 am-6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jeffrie R. Lund
Primary Examiner
Art Unit 1763

JRL
1/24/07